AMENDMENTS TO CLAIMS

The following listing of the claims replaces all prior claim versions and listings.

1. (Original) A system for recording and storing a program broadcast in at least one channel, said system comprising:

one or more slave apparatus for setting a program for timer recording when said slave apparatus is instructed to set the program for timer recording, and recording the program at a time when the program set for timer recording is broadcast; and

a master apparatus for selecting a slave apparatus to record a program such that a plurality of timer recording settings are not made at one time in one apparatus, when the program to be recorded is determined, and instructing the selected slave apparatus to set the program for timer recording.

2. (Original) A system according to claim 1, wherein said master apparatus has means for, if a slave apparatus to record a program cannot be selected, rearranging timer recording settings made in the slave apparatus to retain a slave apparatus to record a program, instructing the retained slave apparatus to change timer recording settings and set the program for timer recording, and instructing other slave apparatus in which timer recording settings are changed to change timer recording settings, and wherein each of said slave apparatus has means for, if instructed to change timer recording settings by said master apparatus, changing timer recording settings.

3. (Original) A system according to claim 1, wherein said master apparatus has means for, if instructed to start recording a program without setting timer recording therefor, instructing a slave apparatus which has not recorded programs so far and whose period of time up to the recording start time of a first program set for timer recording is the longest, to start recording the program, and wherein

each of said slave apparatus has means for, if instructed to start recording a program, immediately starting to record said program.

4. (Original) A system according to claim 1, wherein said master apparatus has means for, if instructed to start recording a program without setting timer recording therefor, rearranging timer recording settings made in the slave apparatus, increasing, as much as possible, a period of time up to the recording start time of a fist program set for timer recording in either one of the slave apparatus, instructing the slave apparatus in which timer recording settings are changed to change timer recording settings, and instructing the slave apparatus whose period of time up to the recording start time has been increased as much as possible to start recording the program, and wherein each of said slave apparatus has means for, if instructed to change timer recording settings by said master apparatus, changing timer recording settings, and, if instructed to start recording a program, immediately starting to record said program.

5. (Original) A system according to claim 1, wherein said master apparatus has means for, if instructed to start recording a program without setting timer recording therefor, selecting a slave apparatus which has not recorded programs so far and which has not made timer recording settings until the end time of a program instructed to start being recorded, and instructing the selected slave apparatus to start recording the program, and wherein each of said slave apparatus has means for, if instructed to start recording a program, immediately starting to record said program.

6. (Original) A system according to claim 1, wherein said master apparatus and each of said slave apparatus are connected to each other via a communication line, each of said slave apparatus has means for indicating a program set for timer recording by the slave apparatus to said master apparatus

via said communication line, and said master apparatus has means for instructing the slave apparatus to set the program for timer recording via said communication line.

7. (Original) A system according to claim 6, wherein each of said slave apparatus has means for transmitting a playback signal produced by playing back a program via said communication line to said master apparatus, and said master apparatus has means for outputting the program to an output device for displaying the program when the master apparatus has received the playback signal via said communication line.

8. (Original) A system according to claim 1, wherein said master apparatus comprises a computer.

9. (Original) A system according to claim 1, wherein said slave apparatus comprise respective add-on modules which can be incorporated in said master apparatus.

10. (Original) A system according to claim 1, wherein said slave apparatus comprise a desired number of software modules that can be executed by said master apparatus.

11. (Original) A system for recording and storing a program broadcast in at least one channel, said system comprising:

one or more slave apparatus for determining whether the slave apparatus are capable of recording a program or not in response to an inquiry as to whether the slave apparatus are capable of recording the program, and, if the slave apparatus are capable of recording the program, sending a corresponding response, setting the program for timer recording, and recording the program when a

time to broadcast the program is reached; and

a master apparatus for, if a program to be recorded is determined, successively asking the slave apparatus about whether the slave apparatus are capable of recording the program until the response indicating that the slave apparatus are capable of recording the program is received, and, if said response is received from a slave apparatus, instructing the slave apparatus which has sent the response to set the program for timer recording.

12. (Original) A system according to claim 11, wherein said master apparatus has means for, if said response indicating that the slave apparatus are capable of recording the program is not received from any of the slave apparatus, rearranging timer recording settings made in the slave apparatus to retain a slave apparatus to record the program.

13. (Original) A system according to claim 11, wherein said master apparatus and each of said slave apparatus are connected to each other via a communication line, and said master apparatus has means for asking the slave apparatus about whether the slave apparatus are capable of recording the program.

14. (Original) A system according to claim 13, wherein each of said slave apparatus has means for transmitting a playback signal produced by playing back a program via said communication line to said master apparatus, and said master apparatus has means for outputting the program to an output device for displaying programs when the master apparatus has received the playback signal via said communication line.

15. (Original) A system according to claim 14, wherein said master apparatus has means for

displaying, on said output device, a list of programs stored in said slave apparatus in association with the slave apparatus and times at which the programs have been recorded, for the user to select a program to be played back from the list.

16. (Original) A system according to claim 14, wherein said master apparatus has a function to record and play back said program.

17. (Original) A system according to claim 11, wherein said master apparatus comprises a computer.

18. (Original) A system according to claim 11, wherein said slave apparatus comprise respective add-on modules which can be incorporated in said master apparatus.

19. (Original) A system according to claim 11, wherein said slave apparatus comprise a desired number of software modules that can be executed by said master apparatus.

20. (Original) A system for recording and storing a program broadcast on at least one channel, said system comprising:

a master apparatus; and

one or more slave apparatus;

said master apparatus comprising:

a first tuner for extracting a signal on an indicated channel from a received broadcast signal;

a first encoder for encoding the signal on said channel to generate program data;

a first memory for storing said program data;

a selector for selecting one of said program data read from said first memory and program data input from another device;

a decoder for decoding said program data input from said selector; and

a controller for grasping programs set for timer recording in each of all the apparatus, and, if a program to be recorded is determined, selecting an apparatus to record the program such that a plurality of timer recording settings are not made at one time in one apparatus, and, if the master apparatus is selected, extracting a channel on which the program is broadcast with said first tuner when a time to broadcast the program is reached, generating program data of the program with said first encoder, and storing the program data in said first memory, and, if a slave apparatus other than the master apparatus is selected, instructing the selected slave apparatus to set the program for timer recording, and, if the program data of a program instructed by the user to be played back is stored in said first memory of the master apparatus, reading the program data from said first memory, and decoding the program data with said first decoder, and, if the program data of a program instructed by the user to be played back is stored in a slave apparatus other than the master apparatus, instructing said slave apparatus to play back the program, and decoding the program data input from said slave apparatus with said first decoder;

each of said slave apparatus comprising:

a second tuner for extracting a signal on an indicated channel from a received broadcast signal;

a second encoder for encoding the signal on said channel to generate program data;

a second memory for storing said program data; and

a controller for extracting a channel on which a program set for timer recording is broadcast with said second tuner when a time to broadcast the program is reached, generating program

data of the program with said second encoder, storing the program data in said second memory, reading the program data of a program instructed by said master apparatus to be played back from said second memory, and transmitting the read program data to said master apparatus.

21. (Original) A system according to claim 20, wherein said slave apparatus comprise respective add-on modules which can be incorporated in said master apparatus.

22. (Original) A system according to claim 20, wherein said slave apparatus comprise a desired number of software modules that can be executed by said master apparatus.

23. (Original) An apparatus in a system for recording and storing a program broadcast on at least one channel, said apparatus comprising:

a tuner for extracting a signal on an indicated channel from a received broadcast signal;

an encoder for encoding the signal on said channel to generate program data;

a memory for storing said program data;

a decoder for decoding said program data read from said memory; and

a controller for grasping programs set for timer recording in a plurality of apparatus including said apparatus itself, and, if a program to be recorded is determined, selecting an apparatus to record the program such that a plurality of timer recording settings are not made at one time in one apparatus, and, if said apparatus itself is selected, extracting a channel on which the program is broadcast with said tuner when a time to broadcast the program is reached, generating program data of the program with said encoder, and storing the program data in said memory, and, if an apparatus other than said apparatus itself is selected, instructing the selected apparatus to set the program for timer recording, and, if the program data of a program instructed by the user to be played back is stored in said

memory of the apparatus itself, reading the program data from said memory, and decoding the program data with said decoder, and, if the program data of a program instructed by the user to be played back is stored in an apparatus other than the apparatus itself, instructing said other apparatus to play back the program, and decoding the program data input from the other apparatus with said decoder.

24. (Original) An apparatus according to claim 23, wherein said controller has means for, if an apparatus to record a program cannot be selected, rearranging timer recording settings made in the apparatus to retain an apparatus to record a program, instructing the retained apparatus to change timer recording settings and set the program for timer recording, and instructing other apparatus in which timer recording settings are changed to change timer recording settings.

25. (Original) An apparatus according to claim 23, wherein said controller has means for, if instructed to start recording a program without setting timer recording therefor, instructing an apparatus which has not recorded programs so far and whose period of time up to the recording start time of a first program set for timer recording is the longest, to start recording the program,

26. (Original) An apparatus according to claim 23, wherein said controller has means for, if instructed to start recording a program without setting timer recording therefor, rearranging timer recording settings made in the apparatus, increasing, as much as possible, a period of time up to the recording start time of a fist program set for timer recording in either one of the apparatus, instructing the apparatus in which timer recording settings are changed to change timer recording settings, and instructing the apparatus whose period of time up to the recording start time has been increased as much as possible to start recording the program.

27. (Original) An apparatus according to claim 23, wherein said controller has means for, if instructed to start recording a program without setting timer recording therefor, selecting an apparatus which has not recorded programs so far and which has not made timer recording settings until the end time of a program instructed to start being recorded, and instructing the selected apparatus to start recording the program.

28. (Original) An apparatus for recording and storing a broadcast program, said apparatus comprising:

a temporary memory for temporarily storing up to a predetermined amount of program data;

a permanent memory for storing program data selected by the user as program data to be permanently stored from among the program data stored in said temporary memory;

a recording controller for successively storing the program data of programs set for timer recording in said temporary memory, and partly deleting the program data recorded in said temporary memory in the past if the program data stored in said temporary memory exceeds said predetermined amount;

a saving controller for transferring the program data selected by the user as program data to be permanently stored from among the program data stored in said temporary memory to said permanent memory; and

a playback controller for playing back a program selected by the user from the programs whose program data have been stored in said temporary memory and/or said permanent memory.

29. (Original) An apparatus according to claim 28, wherein said recording controller has means for displaying a period of time for which the program data stored in said temporary memory are

held, on an output device for displaying programs.

30. (Original) An apparatus according to claim 28, further comprising means for allowing the user to set memory capacities to said temporary memory and said permanent memory.

31. (Original) A system for recording a program broadcast on at least one channel, storing program data of the program, and playing back the program when instructed by the user, said system comprising:

one or more slave apparatus for automatically continuously recording a program on a predetermined channel and playing back the recorded program as instructed; and

a master apparatus for, when the user is to determine a channel on which each of the slave apparatus automatically continuously records a program and to select a program to be played back on the channel, displaying a list of programs recorded by all the slave apparatus in association with channels and times at which the programs are recorded, on an output device for displaying programs, and, if a program to be displayed is selected by the user with a channel and a time, controlling the slave apparatus which has recorded the program to play back the program, and, if the user changes the channel to another channel, controls the slave apparatus which has recorded a program on the other channel at the same time as the former channel to play back the program on the other channel.

32. (Original) A system according to claim 31, wherein said slave apparatus comprise respective add-on modules which can be incorporated in said master apparatus.

33. (Original) A system according to claim 31, wherein said slave apparatus comprise a desired number of software modules that can be executed by said master apparatus.

34. (Original) A system for recording and storing a program broadcast on at least one channel, said system comprising:

a master apparatus; and

one or more slave apparatus;

said master apparatus comprising:

a first memory for storing the program data of recorded programs;

a first decoder for decoding program data read from said first memory; and

a controller for grasping programs recorded by each of all the apparatus, and, if the program data of a program instructed by the user to be played back is stored in the first memory of the master apparatus, reading the program data from said first memory, decoding the program data into a program signal with said first decoder, outputting the program signal to an output device for displaying programs, and, if the program data of a program instructed by the user to be played back is stored in a slave apparatus, instructing the slave apparatus to play back the program, outputting a program signal received from the slave apparatus to said output device, and, if the program data of a program which is highly likely to be played back by a subsequent control action of the user is stored in the first memory of the master apparatus, preparing the master apparatus to read the program data from said first memory and decode the program data with said first decoder, and, if the program data of a program which is highly likely to be played back by a subsequent control action of the user is stored in a slave apparatus, instructing the slave apparatus to prepare said slave apparatus to play back the program; and

each of said slave apparatus comprising:

a second memory for storing said program data;

a second decoder for decoding the program data read from said second memory into a program signal; and

a controller for reading the program data of a program instructed by said master apparatus to be played back from said second memory, decoding the program data into a program signal with said second decoder, transmitting the program signal to said master apparatus, reading the program data of the program instructed to be prepared for playback from said second memory, and preparing said second decoder to decode the program data.

35. (Original) A system according to claim 34, wherein said slave apparatus comprise respective add-on modules which can be incorporated in said master apparatus.

36. (Original) A system according to claim 34, wherein said slave apparatus comprise a desired number of software modules that can be executed by said master apparatus.

37. (Original) An apparatus in a system for recording and storing a program broadcast on at least one channel, said apparatus comprising:

a memory for storing the program data of recorded programs;

a decoder for decoding program data read from said memory; and

a controller for grasping programs recorded by each of all apparatus of the system, and, if the program data of a program instructed by the user to be played back is stored in the memory of the apparatus itself, reading the program data from said memory, decoding the program data into a program signal with said decoder, outputting the program signal to an output device for displaying programs, and, if the program data of a program instructed by the user to be played back is stored in an apparatus other than said apparatus itself, instructing the other apparatus to play back the program, outputting a program signal received from the other apparatus to said output device, and, if the program data of a program which is highly likely to be played back by a subsequent control action of the user is stored in

the memory of said apparatus itself, preparing the apparatus itself to read the program data from said memory and decode the program data with said decoder, and, if the program data of a program which is highly likely to be played back by a subsequent control action of the user is stored in an apparatus other than the apparatus itself, instructing the other apparatus to prepare said other apparatus to play back the program.

38. (Original) An apparatus for controlling a plurality of broadcast recording apparatus each for, if instructed to set a program for timer recording, setting the program for timer recording, and recording the program when a time to broadcast the program set for timer recording is reached, said apparatus comprising:

means for selecting one of the broadcast recording apparatus to record the program such that a plurality of timer recording settings are not made at one time in one apparatus; and

means for instructing the selected broadcast recording apparatus to set the program for timer recording.

39. (Original) An apparatus according to claim 38, further comprising means for, if an apparatus to record a program cannot be selected, rearranging timer recording settings made in the apparatus to retain an apparatus to record a program, instructing the retained apparatus to change timer recording settings and set the program for timer recording, and instructing other apparatus in which timer recording settings are changed to change timer recording settings.

40. (Original) A system for recording and storing a plurality of units of data from data broadcast in units selected by a single tuner, said system comprising:

one or more slave apparatus for, if instructed to set a unit of data for timer recording,

setting the data for timer recording, and recording the data when a time to broadcast the data is reached; and

a master apparatus for grasping data set for timer recording by said slave apparatus, and, if data to be recorded is determined, selecting one of the slave apparatus such that a plurality of timer recording settings are not made at one time in one apparatus, and instructing the selected slave apparatus to set the data for timer recording.

41. (Original) A system according to claim 40, wherein each of said units comprises a transport stream.

42. (Currently Amended) A computer readable medium having computer readable program for operating on a computer [[use]] in communication with an apparatus in a system for recording and storing a program in at least one system, the apparatus having a tuner for extracting a signal in an indicated channel from a received broadcast signal, an encoder for encoding the signal on said channel to generate program data, a memory for storing said program data, and a decoder for decoding said program data stored in said memory, said computer program comprising instructions that cause the computer to perform the steps of:

~~a first instruction set for~~ grasping programs set for timer recording in a plurality of apparatus including said apparatus itself, and, if a program to be recorded is determined, selecting an apparatus to record the program such that a plurality of timer recording settings are not made at one time in one apparatus:

~~a second instruction set for,~~ if said apparatus itself is selected, instructing said tuner to extract a channel on which the program is broadcast when a time to broadcast the program is reached;

~~a third instruction set for~~ instructing said encoder to generate program data of the

program, and instructing said memory to store the program data;

~~a fourth instruction set for,~~ if an apparatus other than said apparatus itself is selected, instructing the selected apparatus to set the program for timer recording;

~~a fifth instruction set for,~~ if the program data of a program instructed by the user to be played back is stored in said memory of the apparatus itself, instructing said memory to read the program data, and instructing said decoder to decode the program data; and

~~a sixth instruction set for,~~ if the program data of a program instructed by the user to be played back is stored in an apparatus other than the apparatus itself, instructing said other apparatus to play back the program, and instructing said decoder to decode the program data input from the other apparatus.

43. (Currently Amended) ~~A computer program~~ The computer readable medium according to claim 42, ~~further comprising~~ wherein said computer program further comprises instructions that cause the computer to perform the steps of:

~~a seventh instruction set for,~~ if an apparatus to record a program cannot be selected, rearranging timer recording settings made in the apparatus to retain an apparatus to record a program; and

~~an eighth instruction set for~~ instructing the retained apparatus to change timer recording settings and set the program for timer recording, and instructing other apparatus in which timer recording settings are changed to change timer recording settings.

44. (Currently Amended) A computer readable medium having computer readable program for operating on a computer [[use]] in communication with an apparatus having a tuner for extracting a signal on a desired channel from a received broadcast signal, an encoder for encoding the signal on

said channel to generate program data, and a memory for storing said program data, said computer program comprising instructions that cause the computer to perform the steps of:

~~a first instruction set for~~ instructing said tuner to extract a channel on which a program instructed to be set for timer recording is broadcast when a time to broadcast the program is reached;

~~a second instruction set for~~ instructing said encoder to generate program data of said program;

~~a third instruction set for~~ instructing said memory to store said program data; and

~~a fourth instruction set for~~ reading program data of a program instructed to be played back from said memory and transmit the program data.

45. (Currently Amended) ~~A computer program~~ The computer readable medium according to claim 44, wherein said computer program further comprises instructions that cause the computer to perform the step of ~~further comprising~~:

~~a fifth instruction set for~~ changing timer recording settings when instructed to change the timer recording settings.

46. (Currently Amended) A computer readable medium having computer readable program for operating on a computer [[use]] in communication with a broadcast storage apparatus having a first memory and a second memory, said computer program comprising instructions that cause the computer to perform the steps of:

~~a first instruction set for~~ successively recording program data of programs set for timer recording in said first memory, and partly deleting the program data recorded in said first memory in the past if the program data stored in said first memory exceeds a predetermined amount;

~~a second instruction set for~~ transferring program data selected by the user as program

data to be permanently saved from among the program data stored in said first memory to said second memory; and

~~a third instruction set for~~ playing back a program selected by the user from the programs whose program data have been stored in said first memory and/or said second memory.

47. (Currently Amended) A computer readable medium having computer readable program for operating on a computer [[use]] in communication with an apparatus in a system for recording and storing a program broadcast on at least one channel, said apparatus having a memory for storing program data of a recorded program and a decoder for decoding program data read from said memory, said computer program comprising instructions that cause the computer to perform the steps of:

~~a first instruction set for~~ grasping programs set for timer recording in all apparatus of the system, and, if the program data of a program instructed by the user to be played back is stored in the memory of the apparatus itself, reading the program data from said memory, instructing said decoder to decode the program data into a program signal, and outputting the program signal to an output device for displaying programs;

~~a second instruction set for,~~ if the program data of a program instructed by the user to be played back is stored in an apparatus other than said apparatus itself, instructing the other apparatus to play back the program, and outputting a program signal received from the other apparatus to said output device;

~~a third instruction set for,~~ if the program data of a program which is highly likely to be played back by a subsequent control action of the user is stored in the memory of said apparatus itself, preparing the apparatus itself to read the program data from said memory and decode the program data with said decoder; and

~~a fourth instruction set for,~~ if the program data of a program which is highly likely to be played back by a subsequent control action of the user is stored in an apparatus other than the apparatus itself, instructing the other apparatus to prepare said other apparatus to play back the program.

48. (Currently Amended) A computer readable medium having computer readable program for operating on a computer [[use]] in communication with an apparatus having a memory for storing program data of a recorded program and a decoder for decoding program data read from said memory into a program signal, said computer program comprising instructions that cause the computer to perform the steps of:

~~a first instruction set for~~ reading from said memory the program data of a program instructed to be played back and instructing said decoder to decode said program data into a program signal and transmit the program signal; and

~~a second instruction set for~~ reading from said memory the program data of a program instructed to be prepared for playback and instructing said decoder to prepare the decoder to decode the program data.

49. (Currently Amended) A computer readable medium having computer readable program for operating on a computer for controlling a plurality of apparatus each for, if instructed to set a program for timer recording, setting the program for timer recording, and recording the program when a time to broadcast the program set for timer recording is reached, said computer program comprising instructions that cause the computer to perform the steps of:

~~a first instruction set for~~ selecting one of the apparatus to record the program such that a plurality of timer recording settings are not made at one time in one apparatus; [[and]]

~~a second instruction set for~~ assigning the selected apparatus to setting the program for

timer recording.

50. (Currently Amended) ~~A computer program~~ The computer readable medium according to claim 49, ~~further comprising~~ wherein said computer program further comprises instructions that cause the computer to perform the steps of ~~further comprising:~~

~~a third instruction set for,~~ if an apparatus to record a program cannot be selected, rearranging timer recording settings made in the apparatus to retain an apparatus to record a program; and

~~a fourth instruction set for~~ instructing the retained apparatus to change timer recording settings and set the program for timer recording, and instructing other apparatus in which timer recording settings are changed to change timer recording settings.